

**AMENDMENTS TO APPLIANCE  
EFFICIENCY REGULATIONS**

**Initial Study and  
Proposed Negative Declaration**

**California Code of Regulations  
Title 20, Sections 1601 – 1608**

**Docket # 08-AAER-1B**

**December 2008  
CEC-400-2008-026-CMF**



*Arnold Schwarzenegger, Governor*



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# CHAPTER 1: Introduction

The Energy Commission was created by the Warren-Alquist Act of 1974 to develop and implement energy policy for California. One of the Energy Commission's mandates is to promote energy efficiency through a variety of means, including efficiency standards for appliances. (Pub. Resources Code Section 25402(c).) The Energy Commission adopted its first appliance efficiency standards in 1976 and has periodically revised them since then. The current regulations include provisions on testing of appliances to determine their efficiency, reporting of data by manufacturers to the Energy Commission, establishing mandatory minimum efficiency levels, and compliance and enforcement procedures, as well as general provisions on the scope of the regulations and definitions.

The proposed amendments to the regulations include provisions for revised efficiency requirements for metal halide luminaires and residential pool pumps, clarifications to the standardized testing of portable spas, and a voluntary test procedure for battery charger systems to determine their efficiency.

Additionally, the proposed amendments will update and revise language in the current regulations so that all language is aligned with recent federal appliance regulations. All of the latter changes are non-substantive as they only restate existing federal law.

Implementation of the proposed standards will result in an estimated annual reduction in electricity consumption of 140 Gigawatt-hours (GWh). Reduced powerplant operation in California and the western states is estimated to reduce criteria air pollutants (Nitrous Oxides (NO<sub>x</sub>), Sulfur Oxides (SO<sub>x</sub>), Particulate Matter less than 10 and 2.5 microns in diameter (PM<sub>10</sub>, PM<sub>2.5</sub>), and Carbon Monoxide (CO)) by 89 metric tons per year. In addition, greenhouse gases will be reduced by an estimated 36,777 metric tons per year.<sup>1</sup>

The California Environmental Quality Act ("CEQA", Public Resources Code Sections 21000 et seq.) requires public agencies to identify and consider the potential environmental effects of their "projects," as that term is defined, and when feasible to mitigate any related adverse environmental consequences. This proposed adoption is a discretionary decision undertaken by a public agency and has the potential to result in direct or indirect physical changes in the environment. Thus, it constitutes a "project" under the CEQA (Pub. Resources Code Section 21065). Therefore, the Energy Commission has prepared this Initial Study to assess the potential significant effects of the proposed regulations on the environment.

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<sup>1</sup> Estimates based on calculations using the energy use data listed in Appendix A: Matrix of Proposed Changes to Appliance Efficiency Standards.





## CHAPTER 2: Description of Proposed Project

This project is a rulemaking proceeding that proposes to amend the levels of efficiency required for certain appliances, establish appliance test methods for certain appliances, and clarify or update the regulations for consistency with federal law.

### Project Description

This project proposes to establish or amend the levels of efficiency required for certain appliances which are not regulated by federal appliance efficiency standards. The required new efficiency standards apply to newly manufactured products and are attainable through normal manufacturing processes. No material changes in how the above appliances are manufactured or constructed are expected to result from these new regulations.

The proposed project also includes clarifying editorial changes to the implementing provisions of the existing regulations, such as definitions, test methods and data-reporting requirements, including edits that align the regulations with a recent update to federal regulations (federal appliance standards). These latter changes are non-substantive and do not have any significant effect on the environment. Therefore, they are not assessed further in this Initial Study.

The Energy Commission is proposing to adopt appliance efficiency regulations to:

- improve the efficiency of high intensity discharge (HID) metal halide luminaires from the current 88 percent ballast efficiency to either 90 or 92 percent, depending on the lamp wattage;
- require occupant sensors, automatic daylight controls, or the use of specified unconventional wattage lamps if the HID metal halide luminaire uses a ballast with a minimum ballast efficiency of 88 percent;
- clarify that the existing residential pool pump regulations apply to installations of a pool pump motor and pump impeller combination greater than or equal to one horsepower, and add a new requirement that replacement pool pump motors are required to meet the efficiency standards;
- clarify with additional definitions the existing test method for portable electric spas;
- specify a standard voluntary test procedure for battery charger systems; and
- update the sections of the regulations that relate to federally-regulated appliances to be consistent with recent changes to federal law made by the Energy Independence and Security Act of 2007.

The proposed regulations are contained in:

*Proposed Amendments to Appliance Efficiency Regulations (Express Terms), California Code of Regulations, Title 20, Sections 1601 through 1608, August 29, 2008, 2008 Appliance Efficiency Rulemaking, Phase 1, Part B, Docket Number 08-AAER-1B.*

All of the documents associated with this rulemaking are available at <http://www.energy.ca.gov/appliances/2008rulemaking/> or by electronic mail from the Energy Commission's Buildings and Appliances Office. The Office can be reached by contacting Linda Franklin at (916) 654-4064, or at [lfrankli@energy.state.ca.us](mailto:lfrankli@energy.state.ca.us).



## **CHAPTER 3: Energy and Environmental Impacts of the Proposed Project**

### **Energy Impacts**

All of the energy efficiency standards being proposed have energy impacts and effects that are positive. The proposed changes reduce the energy use resulting from the use of appliances with no significant change in the energy or materials needed to manufacture the appliances. The annual reduction in electricity consumption will total 140 Gigawatt-hours (GWh).

### **Environmental Impacts**

The Energy Commission completed the environmental checklist that is contained in the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq., Appendix G) to address the potential environmental effects of the proposed regulations. The impacts to each sector, which are shown in Chapter 5, indicate that implementing the proposed amendments to the Appliance Efficiency Regulations will have no adverse effect on the environment. In fact, the new standards will result in major environmental benefits due to reductions in electricity use in both residential and nonresidential appliances, and consequent emissions reductions in California and the Western United States. These reductions are estimated to be 36,777 metric tons per year of greenhouse gas reductions and 89 metric tons of criteria air pollutants. A review of the specific impact of each measure is included in Appendix A. The emission factors used to calculate the emission reductions are also found in Appendix A.



## **CHAPTER 4: No Project Alternative**

If the Energy Commission did not strengthen the energy efficiency standards for appliances as proposed in this project, California would forego the energy savings that would result from the proposed regulations. The energy savings for each year of sales of complying appliances is estimated to total 140 Gigawatt-hours (GWh). Also, the annual release of criteria air pollutants (NO<sub>x</sub>, SO<sub>x</sub>, PM10, PM 2.5, and CO) would continue from powerplants that generate electricity, both in California and across the Western United States. This pollution would be avoided by the proposed regulations. This combined pollution for all criteria pollutants that would occur without this regulation is estimated to be 89 metric tons per year (combined). Also, greenhouse gas (CO<sub>2</sub>) would not be reduced by an estimated 36,777 metric tons per year.

Note that these estimated savings are cumulative. Appliances sold in one year continue to provide energy savings in future years, while each future year also contains new sales of complying appliances.



## CHAPTER 5: Environmental Checklist

Table I: Lead and Responsible Agencies

<b>Project Title</b>	<b>2004 Amendments to the Appliance Efficiency Regulations</b>
Lead agency name and address	California Energy Commission, 1516 Ninth Street – MS 25 Sacramento, California 95814
Contact person and phone number	Rob Hudler, CEQA Manager, Buildings and Appliances Office, Efficiency and Renewable Energy Division, (916) 654-4072, <a href="mailto:rhudler@energy.state.ca.us">rhudler@energy.state.ca.us</a> Harinder Singh, Project Engineer, Appliance Efficiency Program, Efficiency and Renewable Energy Division, (916) 654-4091, <a href="mailto:hsingh@energy.state.ca.us">hsingh@energy.state.ca.us</a>
Project description	The Energy Commission is proposing changes to the Appliance Efficiency Regulations.
Responsible agencies	None
Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement)	None

### Environmental Factors Potentially Affected

For each of the environmental factors checked below, there is likely to be a positive environmental impact due to the decrease in power generation associated with reduced electrical demand by the use of more efficient appliances. The Energy Commission's analysis reveals no significant adverse impacts.

Table II: Potentially Affected Areas

	I. Aesthetics	X	VII. Energy		XIII. Noise
	II. Agriculture Resources		VIII. Hazards & Hazardous Materials		XIV. Population/ Housing
X	III. Air Quality		IX. Hydrology/ Water Quality		XV. Public Services
	IV. Biological Resources		X. Land Use/ Planning		XVI. Recreation
	V. Cultural Resources		XI. Mineral Resources		XVII. Transportation/ Traffic
	VI. Geology/Soils		XII. Natural Resources		XVIII. Utilities/Service Systems
				X	XIX. Mandatory Findings of Significance

## Issues

Table III: Specific Potential Issues

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>I. AESTHETICS</b> -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?				X
<i>Improvements in the energy efficiency of appliances will have no impact to aesthetics nor to any of the specific concerns listed above.</i>				
<b>II. AGRICULTURE RESOURCES</b> – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert prime farmland, unique farmland, or farmland of statewide importance (farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use?				X
<i>Improvements in the energy efficiency of appliances will have no impact to agricultural resources nor to any of the specific concerns listed above.</i>				



	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>III. AIR QUALITY</b> -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?				X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?				X
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?				X
d) Expose sensitive receptors to substantial pollutant concentrations?				X
e) Create objectionable odors affecting a substantial number of people?				X
<i>Improvements in the energy efficiency of appliances will have no adverse impact to the air quality concerns listed above. The appliance standards changes will likely result in reduced powerplant operation in California and the western United States compared to existing appliance standards. Reduced powerplant operation will result in a positive air quality impact by a reduction in emissions of criteria and non-criteria pollutants.</i>				
<b>IV. BIOLOGICAL RESOURCES</b> -- Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wild-life corridors, or impede the use of native wildlife nursery sites?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X
<i>Improvements in the energy efficiency of appliances will have no impact to any biological resources nor to any of the specific concerns listed above. The appliance standards changes will likely result in reduced powerplant operation in California and the western United States compared to existing appliance standards. Reduced powerplant operation will result in a positive impact on biological resources affected by powerplant operations.</i>				
<b>V. CULTURAL RESOURCES</b> -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?				X

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
c) Directly or indirectly destroy a unique pale ontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X
<i>Improvements in the energy efficiency of appliances will have no impact to any cultural resources nor to any of the specific concerns listed above.</i>				
<b>VI. GEOLOGY AND SOILS</b> -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				X
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to <i>Division of Mines and Geology Special Publication 42</i> .				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?				X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
<i>Improvements in the energy efficiency of appliances will have no impact to geology and soils nor to any of the specific concerns listed above.</i>				
<b>VII. ENERGY -- Would the project:</b>				
a) Use exceptional amounts of fuel or energy?				X
b) Increase demand upon existing sources of energy, or require the development of new sources of energy?				X
<i>Improvements in the energy efficiency of appliances will have no adverse impact to energy. Improvements in the energy efficiency of appliances will result in reduced energy use, reduced demand, and less fuel consumed by powerplants for electricity generation.</i>				
<b>VIII. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:</b>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X
<i>Improvements in the energy efficiency of appliances will have no impact involving any hazards hazardous materials nor to any of the specific concerns listed above. Reduced powerplant operation resulting from improved appliance energy efficiency may result in a positive impact by reducing the generation of hazards and hazardous materials associated with powerplant operations.</i>				
<b>IX. HYDROLOGY AND WATER QUALITY -- Would the project:</b>				
a) Violate any water quality standards or waste discharge requirements?				X
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-or off-site?				X
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?				X
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?				X
f) Otherwise substantially degrade water quality?				X
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?				X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X
<i>Improvements in the energy efficiency of appliances will have no impact to hydrology and water quality nor to any of the specific concerns listed above. Reduced powerplant operation resulting from improved appliance energy efficiency may result in a positive impact by reducing the impacts on water resources and water quality associated with powerplant operations.</i>				
<b>X. LAND USE AND PLANNING</b> -- Would the project:				
a) Physically divide an established community?				X

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X
<i>Improvements in the energy efficiency of appliances will have no impact to land use and planning nor to any of the specific concerns listed above.</i>				
<b>XI. MINERAL RESOURCES</b> -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
<i>Improvements in the energy efficiency of appliances will have no adverse impact to any of the concerns listed above. Much of the power generated in California comes from natural gas powerplants; the reduction in energy use that results from energy efficiency will reduce rather than expand the demand for and consumption of natural gas resources. As a smaller portion of the power consumed in California is generated by coal-fired powerplants, the consumption of coal by powerplants would also be potentially reduced by energy efficiency.</i>				
<b>XII. NATURAL RESOURCES</b> -- Would the project result in:				
a) Significant increase in the rate of use of any natural resources?				X
b) Significant depletion of any non-renewable natural resource?				X
<i>Improvements in the energy efficiency of appliances will have no adverse impact to any natural resources and not to any of the specific concerns listed above. The standards will reduce the rate of use and depletion of natural resources normally consumed in the generation of electricity (see the immediately previous discussion of Mineral Resources, above).</i>				
<b>XIII. NOISE</b> -- Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				X

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?				X
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X
<i>Improvements in the energy efficiency of appliances will have no noise impact and no impact to the specific concerns listed above.</i>				
<b>XIV. POPULATION AND HOUSING -- Would the project:</b>				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X
<i>Improvements in the energy efficiency of appliances will have no impact to population and housing nor to any of the concerns listed above.</i>				



	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>XV. PUBLIC SERVICES</b> -- Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				X
Fire protection?				X
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X
<i>Improvements in the energy efficiency of appliances will have no impact to public services nor to any of the specific concerns listed above.</i>				
<b>XVI. RECREATION</b> -- Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?				X
<i>Improvements in the energy efficiency of appliances will have no impact to recreation nor to any of the specific concerns listed above.</i>				
<b>XVII. TRANSPORTATION AND TRAFFIC</b> -- Would the project:				
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?				X

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?				X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e) Result in inadequate emergency access?				X
f) Result in inadequate parking capacity?				X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X
<i>Improvements in the energy efficiency of appliances will have no impact to traffic and transportation nor to any of the specific concerns listed above.</i>				
<b>XVIII. UTILITIES AND SERVICE SYSTEMS -- Would the project:</b>				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers' existing commitments?				X
f) Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs?				X
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X
<i>Improvements in the energy efficiency of appliances will have no adverse impact to any of the concerns listed above. By reducing electricity and natural gas use the proposed regulations will have beneficial effects on energy utilities, including increased reliability.</i>				
<b>XIX. MANDATORY FINDINGS OF SIGNIFICANCE</b>				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				X

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?				X
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?				X
<p><i>Improvements in the energy efficiency of appliances will have no adverse impact to any of the concerns listed in the above checklist. No potential exists to have any adverse impact to any animal or human population, and none of the impacts are cumulatively considerable.</i></p> <p><i>Improvements in the energy efficiency of appliances due to standards are likely to result in beneficial impacts including reduced energy consumption, reduced powerplant operation, and reduced need to build powerplants in the future in California and the western United States.</i></p>				

## CHAPTER 6: Determination

On the basis of this evaluation:

X	I find that the proposed project WILL NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.
<p>Signing Officer: Melissa Jones, Executive Director, California Energy Commission</p>  <p>Signature_____Date_____</p>	



# APPENDIX A: Matrix of Proposed Changes to Appliance Efficiency Standards and Resulting Energy and Environmental Effects

Table I: Matrix of Proposed Changes

	<i>Appliance Type</i>	<i>Existing Standard</i>	<i>Proposed Standard or Description of Changes</i>	<i>Estimated Energy Effects</i>	<i>Potential Environmental Issues</i>
1	Battery Charger Systems Test Procedure	No current standards.	The new requirements will establish a testing procedure for battery chargers. There will be no efficiency requirements established as part of this rulemaking. The adoption of a test procedure will allow for the consideration of a minimal efficiency standard in the future.	No savings.	No impacts.

	<b><i>Appliance Type</i></b>	<b><i>Existing Standard</i></b>	<b><i>Proposed Standard or Description of Changes</i></b>	<b><i>Estimated Energy Effects</i></b>	<b><i>Potential Environmental Issues</i></b>
2	High-Intensity Discharge Metal Halide Luminaires	The current standard for all HID metal halide luminaires is an 88 percent ballast efficiency.	The new requirements establish lower maximum allowed energy use based on design and size. Lamps with wattages from 150 to 274 will have a minimum ballast efficiency of 90 percent and lamps from 275 to 500 watts will have a minimum ballast efficiency of 92 percent. Compliance options are available which allow continued use of 88 percent ballast efficiency in combination with (1) the use of integral lighting controls, or (2) with the use of alternate wattage ranges.	Estimated sales in California are 254,100 annually. Average energy savings per unit is 159 kWh/yr. Estimated energy savings for this class of appliance: 40.4 GWh/yr.	<p><b>EMISSIONS:</b> Emissions reductions in criteria pollutants (NO<sub>x</sub>, SO<sub>x</sub>, PM10, CO, PM2.5) estimated to be 25.8 metric tons. Greenhouse gas reductions estimated to be 10,610 metric tons per year.</p> <p><b>MATERIALS:</b> No significant change will occur in material use.</p>



	<b><i>Appliance Type</i></b>	<b><i>Existing Standard</i></b>	<b><i>Proposed Standard or Description of Changes</i></b>	<b><i>Estimated Energy Effects</i></b>	<b><i>Potential Environmental Issues</i></b>
3	Portable Electric Spas	Current standards require performance testing to measure energy use of portable electric spas. There is a minimal efficiency requirement.	The proposed regulations amend the test procedure for portable electric spas, clarifying the conditions of the test. No new efficiency requirements are proposed as part of this rulemaking.	No savings.	No impacts.

	<b><i>Appliance Type</i></b>	<b><i>Existing Standard</i></b>	<b><i>Proposed Standard or Description of Changes</i></b>	<b><i>Estimated Energy Effects</i></b>	<b><i>Potential Environmental Issues</i></b>
4	Residential Pool Pumps	The current standards apply to pool pump and motor combinations, with a capacity of one horsepower or greater, that are used for swimming pools.	The proposed regulations clarify that the efficiency requirements apply also to replacement motors that are attached to an existing pump or impeller.	Estimated sales in California are 56,600 annually. Average energy savings per unit is estimated to be 881 kWh/yr. Cumulative energy savings estimated to be 99.6 GWh/yr.	<p>EMISSIONS: Emissions reductions of criteria pollutants estimated to be 63.7 metric tons per year. Greenhouse gas reductions will total 26,167 metric tons per year.</p> <p>MATERIALS: No significant change will occur in material use.</p>

	<b><i>Appliance Type</i></b>	<b><i>Existing Standard</i></b>	<b><i>Proposed Standard or Description of Changes</i></b>	<b><i>Estimated Energy Effects</i></b>	<b><i>Potential Environmental Issues</i></b>
5	Cumulative Effect (All)	See above.	See above.	Cumulative Energy savings: 140 GWh/yr.	EMISSIONS: Emissions reductions of criteria emissions estimated to be 89.5 metric tons per year. Greenhouse gas reductions estimated to be 36,777 metric tons per year.

**Table II: Emissions Factors for Calculating Reduced Emissions from Energy Savings**

Emissions Factors	NOx	SOx	CO	PM10	CO2
Electricity, western states (lbs/GWh)	158	948	230	74	578,960

Emission factors supplied by California Energy Commission staff from the System Assessment and Facilities Siting Division and the Electricity Supply Analysis Division, 2006-2008.

## APPENDIX B: References

### References

*Order Instituting Rulemaking*, Order # 07-1205-26, 3 pages, December 3, 2007; Docket # 07-AAER-3, available at [http://www.energy.ca.gov/appliances/2008rulemaking/documents/2007-12-05\\_ORDER.PDF](http://www.energy.ca.gov/appliances/2008rulemaking/documents/2007-12-05_ORDER.PDF)

*California Energy Commission, Preliminary Staff Report for Appliance Efficiency Rulemaking*, 27 Pages, May 20, 2008, Docket # 07-AAER-3; available at <http://www.energy.ca.gov/2008publications/CEC-400-2008-015/CEC-400-2008-015.PDF>

Pacific Gas and Electric Proposal Information Template for Battery Changer Systems, 19 pages; April, 07, 2008; Docket # 07-AAER-3, available at [http://www.energy.ca.gov/appliances/2008rulemaking/documents/2008-04-01\\_workshop/2008-04-08\\_Pacific\\_Gas\\_+\\_Electric\\_Proposal\\_Information\\_Template\\_for\\_Battery\\_Chargers.pdf](http://www.energy.ca.gov/appliances/2008rulemaking/documents/2008-04-01_workshop/2008-04-08_Pacific_Gas_+_Electric_Proposal_Information_Template_for_Battery_Chargers.pdf)

Pacific Gas and Electric High-Intensity Discharge lighting Fixtures CASE Study. 19 pages April 3, 2008; Docket # 07-AAER-3, available at [http://www.energy.ca.gov/appliances/2008rulemaking/documents/2008-04-01\\_workshop/2008-04-04\\_Pacific\\_Gas\\_+\\_Electric\\_HID\\_Fixtures\\_CASE\\_study.pdf](http://www.energy.ca.gov/appliances/2008rulemaking/documents/2008-04-01_workshop/2008-04-04_Pacific_Gas_+_Electric_HID_Fixtures_CASE_study.pdf)

Pacific Gas and Electric Updated Proposal Information Template for Residential Pool Pump Measure Revision, 8 pages, Jul, 30, 2008 (PDF) Docket # 07-AAER-3, available at [http://www.energy.ca.gov/appliances/2008rulemaking/documents/2008-05-15\\_workshop/other/PGE\\_Updated\\_Proposal\\_Information\\_Template\\_for\\_Residential\\_Pool\\_Pump\\_Measure\\_Revisions.pdf](http://www.energy.ca.gov/appliances/2008rulemaking/documents/2008-05-15_workshop/other/PGE_Updated_Proposal_Information_Template_for_Residential_Pool_Pump_Measure_Revisions.pdf)

Pacific Gas and Electric, Proposal Information Template for Portable Electric Spa Test Method Revisions, 5 pages, July 28, 2008; Docket # 07-AAER-3, available at [http://www.energy.ca.gov/appliances/2008rulemaking/documents/2008-05-15\\_workshop/other/PGE\\_Proposal\\_Information\\_Template\\_for\\_Portable\\_Electric\\_Spa\\_Test\\_Method\\_Revisions.pdf](http://www.energy.ca.gov/appliances/2008rulemaking/documents/2008-05-15_workshop/other/PGE_Proposal_Information_Template_for_Portable_Electric_Spa_Test_Method_Revisions.pdf)



## APPENDIX C: Glossary of Terms

CO - Carbon Monoxide, a gas generated from incomplete combustion processes including fossil fuel combustion. The primary concern is the effect of chronic low emission levels on local air quality, as contrasted with the potential acute health hazard posed by direct inhalation of concentrated CO.

CO<sub>2</sub> - Carbon Dioxide, a gas generated from normal combustion processes including fossil fuel combustion. Primary concern is its effect on global climate change.

Gigawatt-hour (GWh) - One thousand megawatt-hours, or one million kilowatt-hours, or one billion watt-hours of electrical energy.

High Intensity Discharge (HID) Luminaires - An electric-discharge lamp in which the light-producing arc is stabilized by bulb wall temperature and the arc tube has a bulb wall loading in excess of three watts per square centimeter (3W/cm<sup>2</sup>). This includes lamps that are mercury vapor, metal halide, and high-pressure sodium lamps.

Kilowatt-hour (kWh) - One thousand watt-hours of energy.

Megawatt-hour (MWh) - One thousand kilowatt-hours, or one million watt-hours of electrical energy.

Nonconventional HID - HID Luminaires that use regulated lag ballasts; that use electronic ballasts which operate at 480 volts; or that meet all three of the following requirements: rated only for 150 watt lamps, rated for use in wet locations as specified by the National Electrical Code 2002, Section 410.4(A), and containing a ballast that is rated to operate at ambient air temperatures above 50 degrees C as specified by UL 1029-2001.

NO<sub>x</sub> - Oxides of Nitrogen, usually NO and NO<sub>2</sub>, which are gases generated from incomplete combustion processes including fossil fuel combustion. Primary concern is as a chief component of air pollution, contributing specifically to ground-level ozone (O<sub>3</sub>), smog, and acid rain (through formation of nitric acid).

PM<sub>10</sub> - Solid particulate matter defined as having a mean aerodynamic diameter of 10 microns or smaller. Generally considered pollutants, particulates are released from combustion processes in exhaust gases including those generated by fossil fuel plants, by mobile sources such as automobiles, and by other fugitive particle sources.

PM<sub>2.5</sub> - Solid particulate matter defined as having a mean aerodynamic diameter of 2.5 microns or smaller. Similar in most respects to PM<sub>10</sub> but with somewhat different effects on biology and health.

SO<sub>x</sub> - Sulfur oxides, a group of gases generated from the combustion of sulfur. Trace quantities of sulfur are found in virtually all fossil fuels, and are combusted when the fuels are burned. Primary concern is as the pollutant primarily responsible for acid rain (through formation of sulfuric acid).